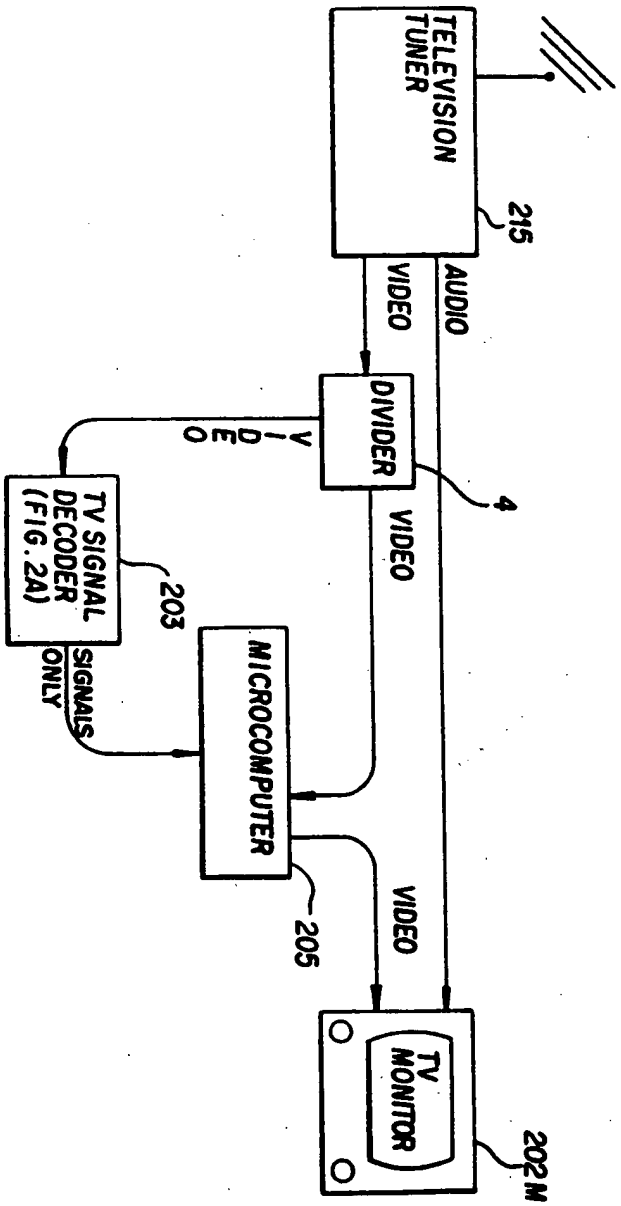

TELEVISION TUNER
215
VIDEO
AUDIO
DIVIDER
VIDEO
4
VIDEO
TV SIGNAL DECODER (FIG. 2A)
203
SIGNALS ONLY
MICROCOMPUTER
205
VIDEO
TV MONITOR
202M

FIG. 1

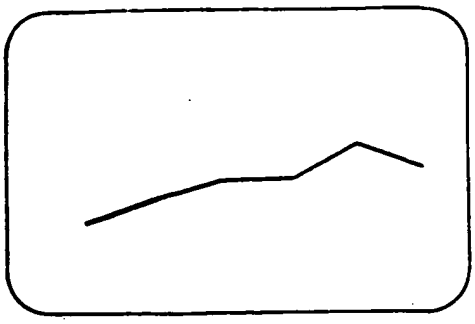


FIG. 1A

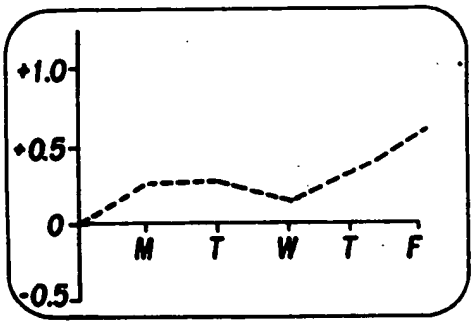


FIG. 1B

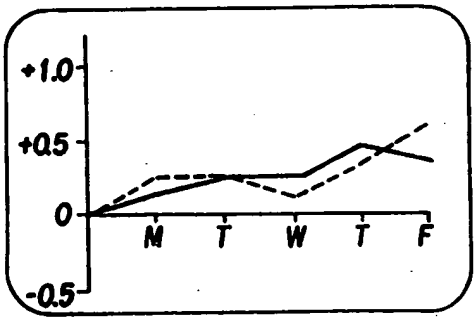


FIG. 1C

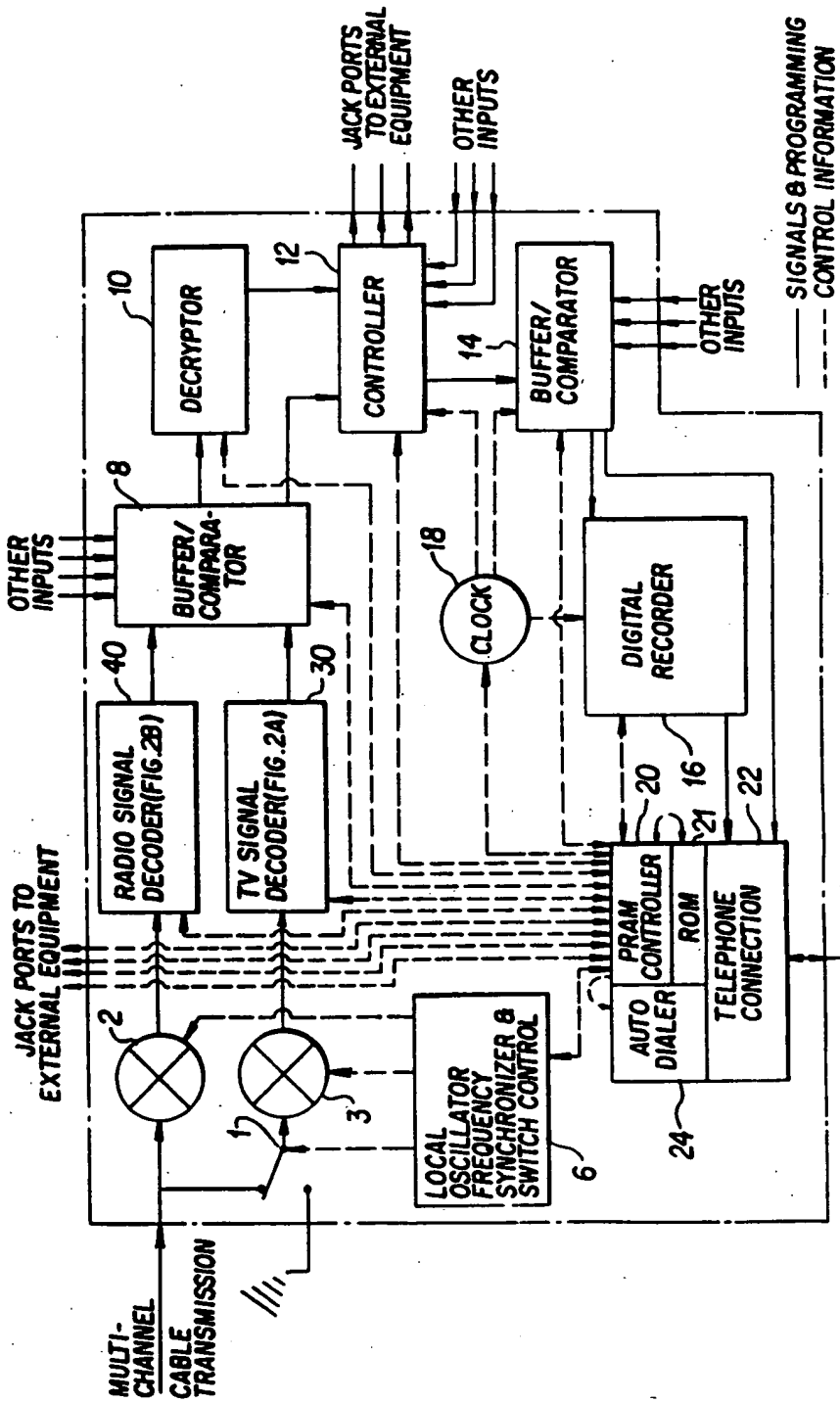

JACK PORTS TO EXTERNAL EQUIPMENT
OTHER INPUTS
SIGNALS & PROGRAMMING CONTROL INFORMATION
DECRYPTOR
CONTROLLER
BUFFER/ COMPARATOR
OTHER INPUTS
OTHER INPUTS
BUFFER/ COMPARA-TOR
CLOCK
DIGITAL RECORDER
RADIO SIGNAL DECODER(FIG.2B)
TV SIGNAL DECODER(FIG.2A)
JACK PORTS TO EXTERNAL EQUIPMENT
PRAM CONTROLLER
ROM
AUTO DIALER
TELEPHONE CONNECTION
TELEPHONE OR OTHER DATA TRANSFER NETWORK
LOCAL OSCILLATOR FREQUENCY SYNCHRONIZER & SWITCH CONTROL
MULTI-CHANNEL CABLE TRANSMISSION
10
12
14
8
18
40
30
20
16
21
22
2
3
1
6
24

FIG. 2

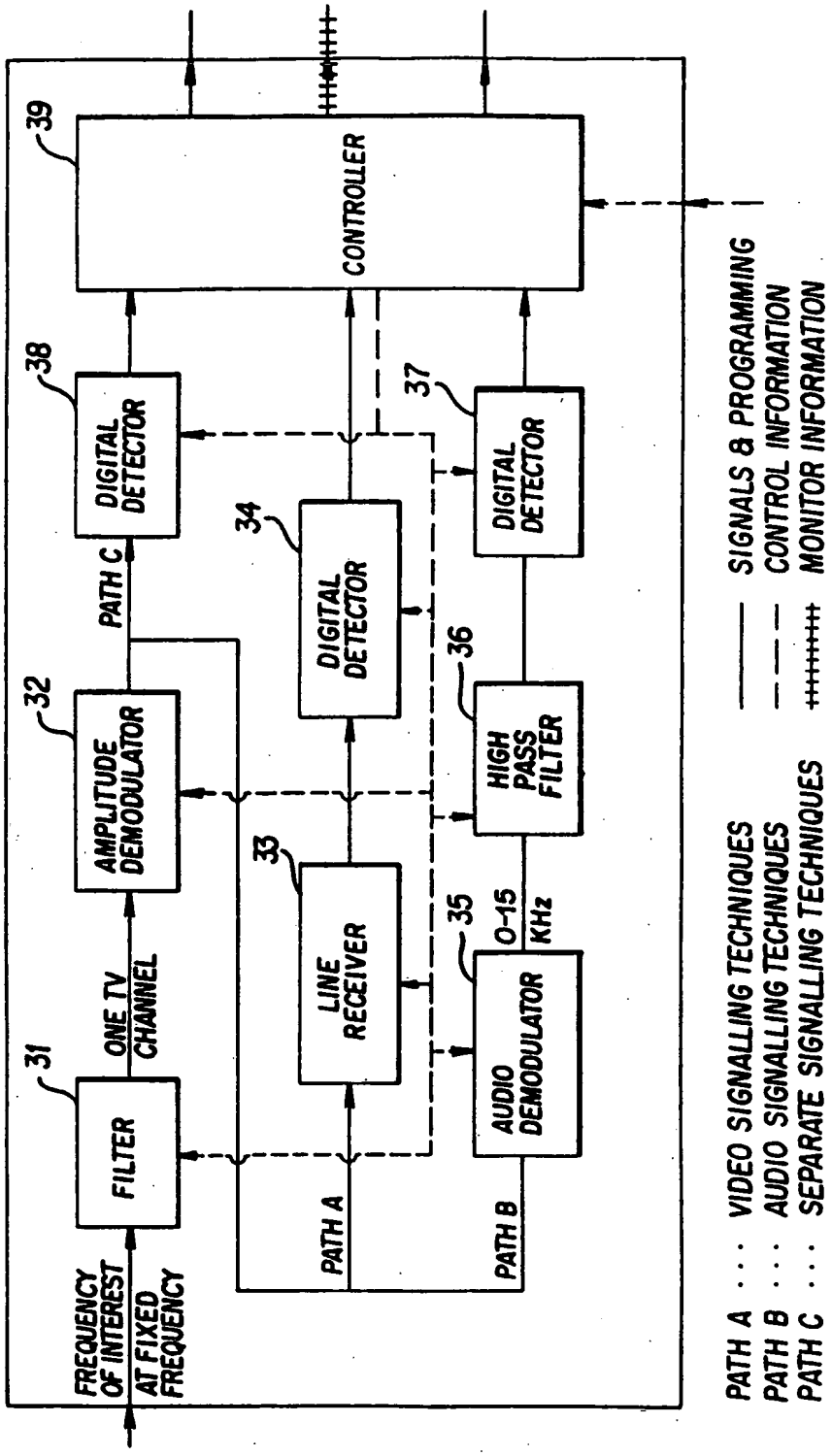

39
CONTROLLER
38
DIGITAL DETECTOR
37
DIGITAL DETECTOR
34
DIGITAL DETECTOR
32
AMPLITUDE DEMODULATOR
36
HIGH PASS FILTER
33
LINE RECEIVER
35
AUDIO DEMODULATOR
0-15 KHz
31
FILTER
ONE TV CHANNEL
PATH C
PATH A
PATH B
FREQUENCY OF INTEREST AT FIXED FREQUENCY
PATH A ... VIDEO SIGNALLING TECHNIQUES
PATH B ... AUDIO SIGNALLING TECHNIQUES
PATH C ... SEPARATE SIGNALLING TECHNIQUES
SIGNALS & PROGRAMMING
CONTROL INFORMATION
MONITOR INFORMATION

FIG. 2A

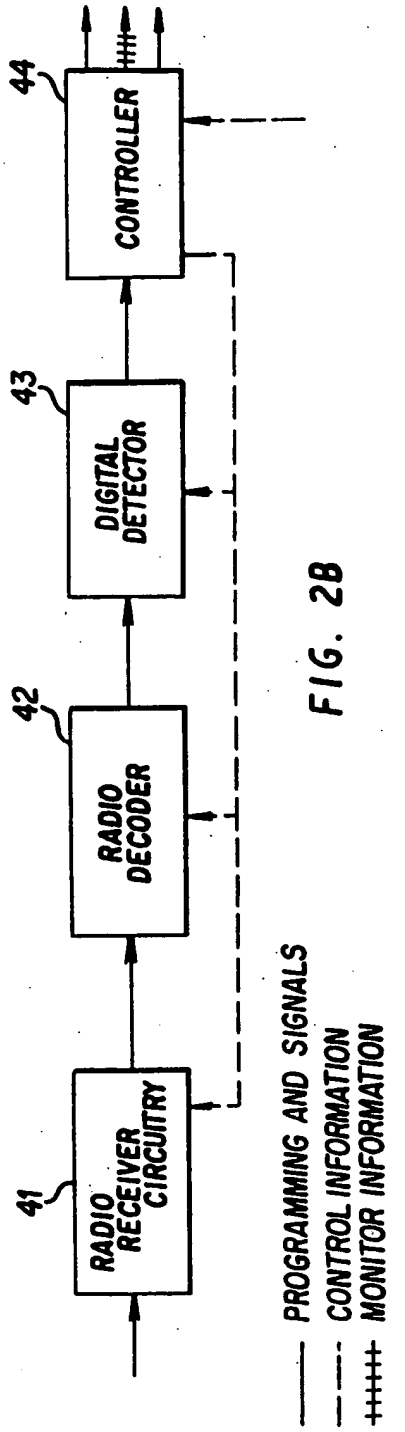

41
RADIO RECEIVER CIRCUITRY
42
RADIO DECODER
43
DIGITAL DETECTOR
44
CONTROLLER
PROGRAMMING AND SIGNALS
CONTROL INFORMATION
MONITOR INFORMATION

FIG. 2B

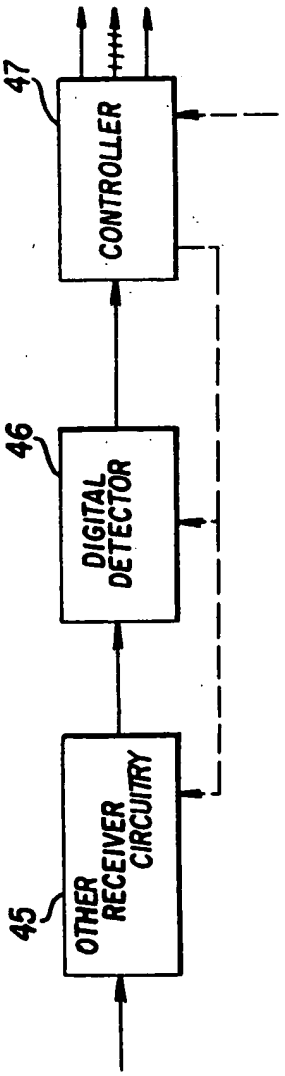

45
OTHER RECEIVER CIRCUITRY
46
DIGITAL DETECTOR
47
CONTROLLER

FIG. 2C

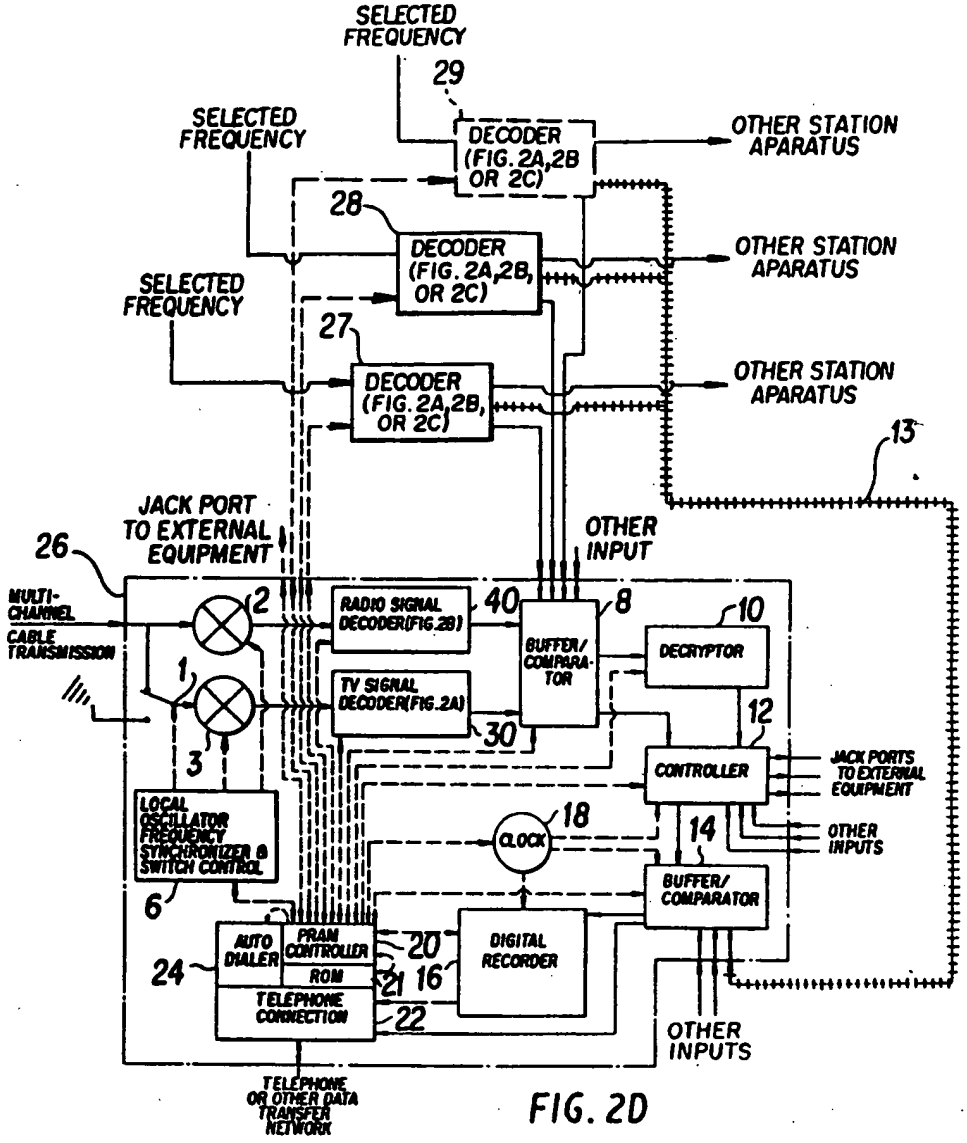

SELECTED FREQUENCY
29
DECODER (FIG. 2A,2B OR 2C)
OTHER STATION APARATUS
SELECTED FREQUENCY
28
DECODER (FIG. 2A,2B, OR 2C)
OTHER STATION APARATUS
SELECTED FREQUENCY
27
DECODER (FIG. 2A,2B, OR 2C)
OTHER STATION APARATUS
13
JACK PORT TO EXTERNAL EQUIPMENT
OTHER INPUT
26
MULTI-CHANNEL CABLE TRANSMISSION
2
1
3
RADIO SIGNAL DECODER(FIG.2B)
40
TV SIGNAL DECODER(FIG.2A)
30
BUFFER/ COMPARA-TOR
8
DECRYPTOR
10
12
CONTROLLER
JACK PORTS TO EXTERNAL EQUIPMENT
OTHER INPUTS
LOCAL OSCILLATOR FREQUENCY SYNCHRONIZER & SWITCH CONTROL
6
CLOCK
18
14
BUFFER/ COMPARATOR
AUTO DIALER
PRAM CONTROLLER
ROM
20
21
24
TELEPHONE CONNECTION
22
DIGITAL RECORDER
16
OTHER INPUTS
TELEPHONE OR OTHER DATA TRANSFER NETWORK
SIGNALS & PROGRAMMING
CONTROL INFORMATION
MONITOR INFORMATION

FIG. 2D

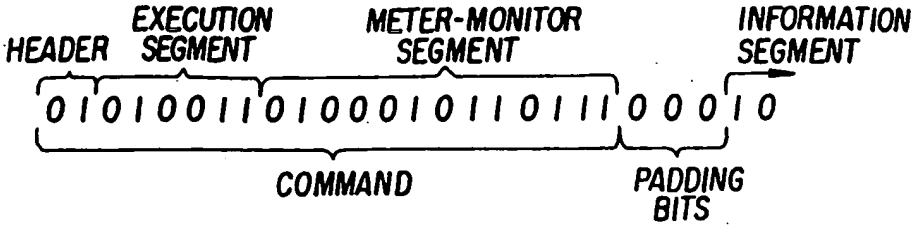


FIG. 2E

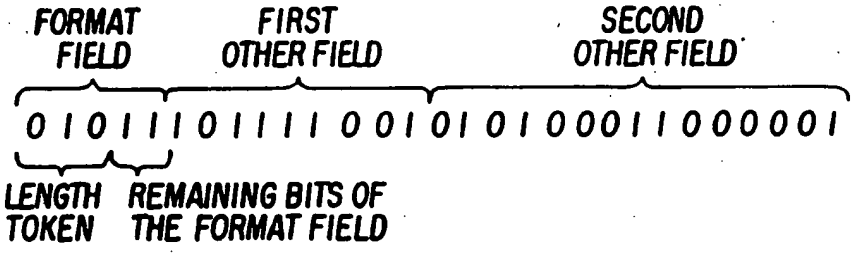


FIG. 2F

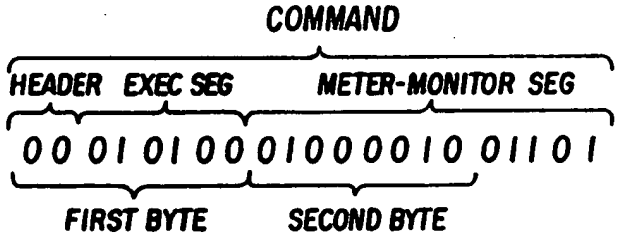


FIG. 2G

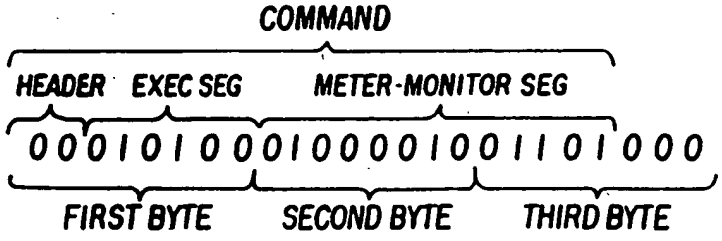


FIG. 2H

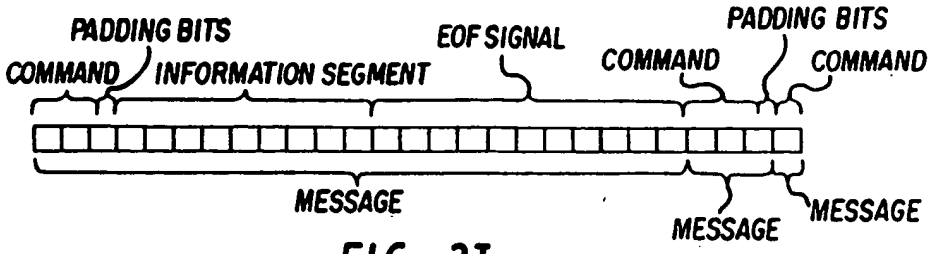


FIG. 2I

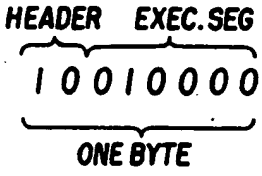


FIG. 2J

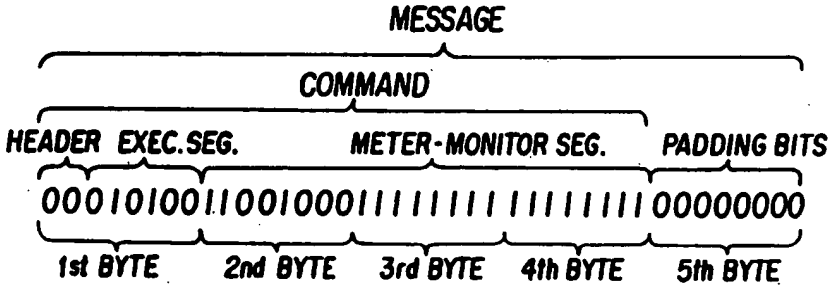


FIG. 2K

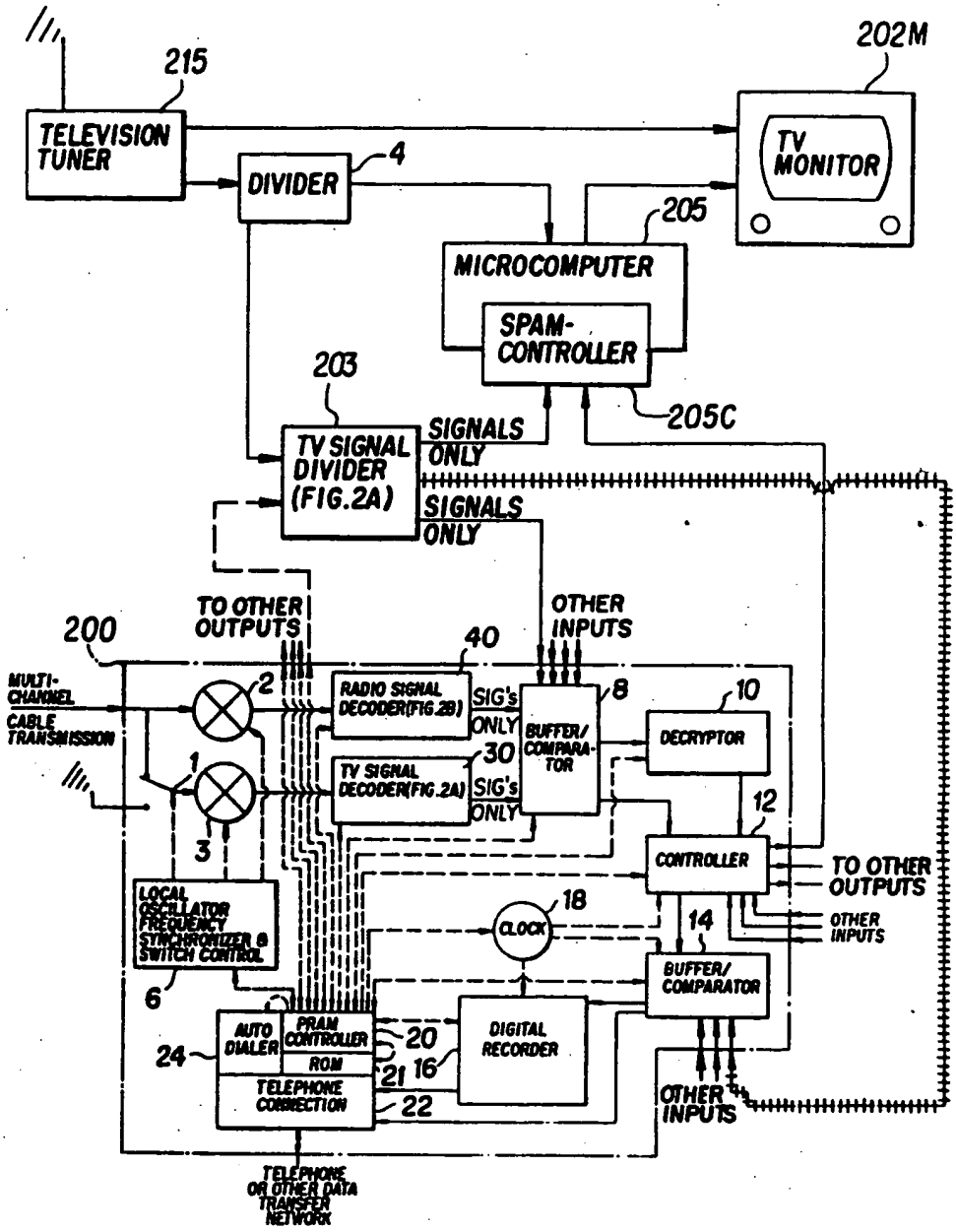

215
TELEVISION TUNER
DIVIDER
4
202M
TV MONITOR
205
MICROCOMPUTER
SPAM-CONTROLLER
205C
203
TV SIGNAL DIVIDER (FIG.2A)
SIGNALS ONLY
SIGNALS ONLY
TO OTHER OUTPUTS
OTHER INPUTS
200
40
MULTI-CHANNEL CABLE TRANSMISSION
2
1
3
RADIO SIGNAL DECODER(FIG.2B)
TV SIGNAL DECODER(FIG.2A)
SIG's ONLY
SIG's ONLY
30
BUFFER/ COMPARATOR
8
DECRYPTOR
10
12
CONTROLLER
TO OTHER OUTPUTS
OTHER INPUTS
LOCAL OSCILLATOR FREQUENCY SYNCHRONIZER & SWITCH CONTROL
6
CLOCK
18
14
BUFFER/ COMPARATOR
AUTO DIALER
PRAM CONTROLLER
ROM
TELEPHONE CONNECTION
24
20
21
16
22
DIGITAL RECORDER
OTHER INPUTS
TELEPHONE OR OTHER DATA TRANSFER NETWORK
SIGNALS & PROGRAMMING
CONTROL INFORMATION

FIG. 3

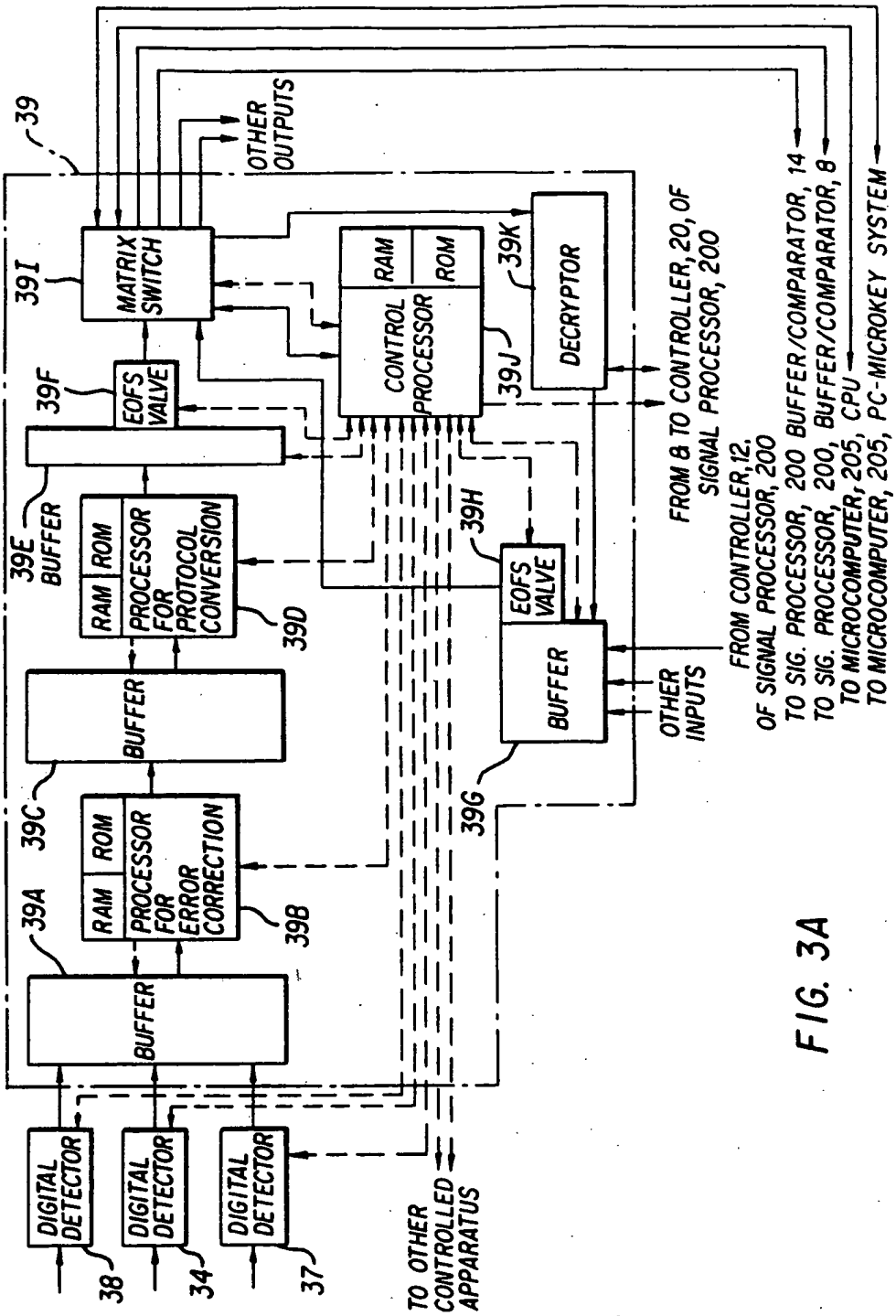
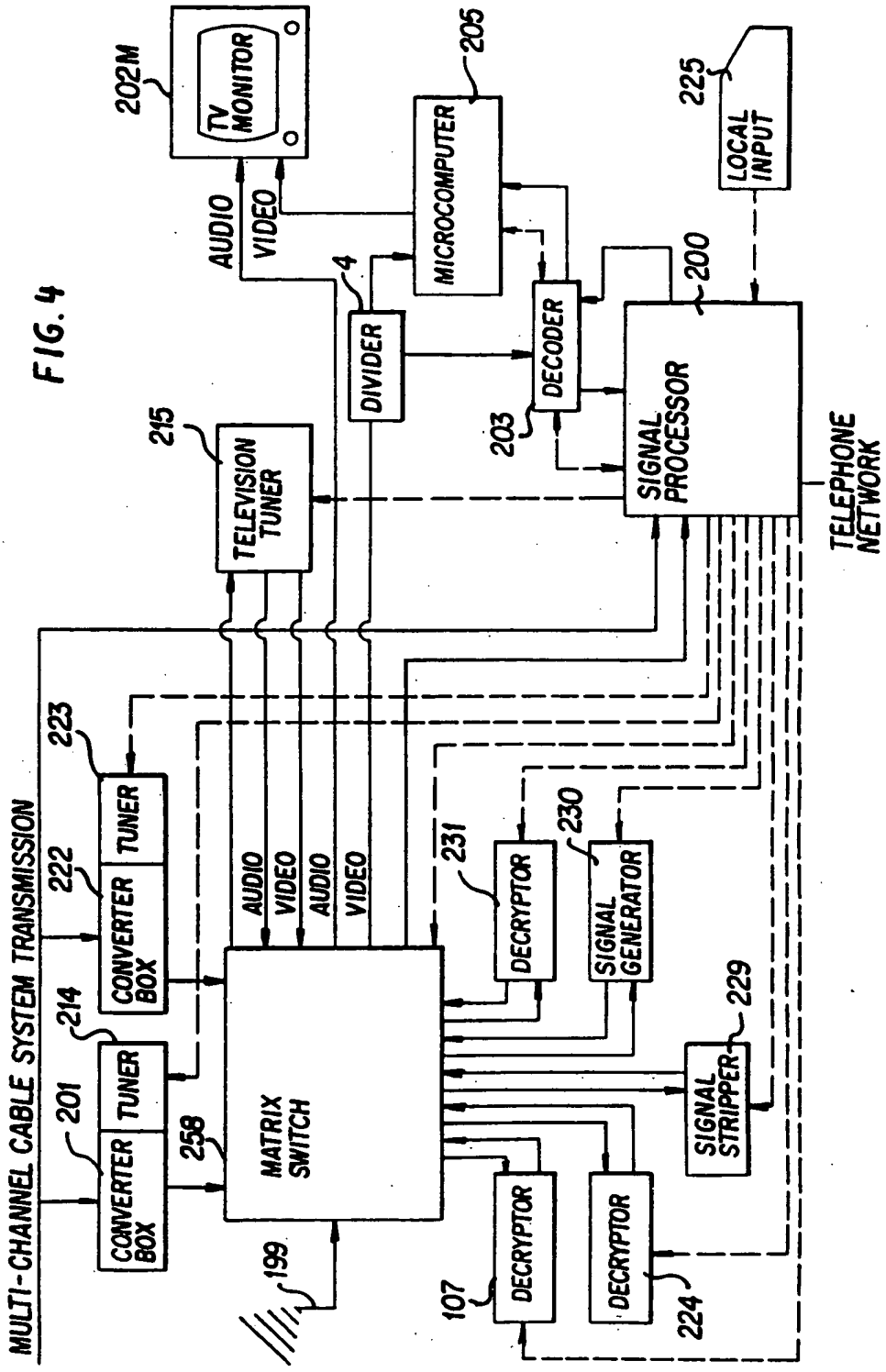

39
OTHER OUTPUTS
39I
MATRIX SWITCH
RAM
ROM
CONTROL PROCESSOR
39K
DECRYPTOR
39J
39F
EOFS VALVE
39E BUFFER
RAM
ROM
PROCESSOR FOR PROTOCOL CONVERSION
39D
39H
EOFS VALVE
BUFFER
BUFFER
39C
RAM
ROM
PROCESSOR FOR ERROR CORRECTION
39B
39A
BUFFER
39G
FROM 8 TO CONTROLLER, 20, OF SIGNAL PROCESSOR, 200
OTHER INPUTS
FROM CONTROLLER, 12, OF SIGNAL PROCESSOR, 200
TO SIG. PROCESSOR, 200 BUFFER/COMPARATOR, 14
TO SIG. PROCESSOR, 200, BUFFER/COMPARATOR, 8
TO MICROCOMPUTER, 205, CPU
TO MICROCOMPUTER, 205, PC-MICROKEY SYSTEM
DIGITAL DETECTOR
DIGITAL DETECTOR
DIGITAL DETECTOR
38
34
37
TO OTHER CONTROLLED APPARATUS

FIG. 3A

FIG. 4


MULTI-CHANNEL CABLE SYSTEM TRANSMISSION
201
CONVERTER BOX
TUNER
214
CONVERTER BOX
TUNER
222
223
258
MATRIX SWITCH
199
AUDIO
VIDEO
AUDIO
VIDEO
TELEVISION TUNER
215
DIVIDER
4
AUDIO
VIDEO
202M
TV MONITOR
MICROCOMPUTER
205
DECODER
203
SIGNAL PROCESSOR
200
LOCAL INPUT
225
TELEPHONE NETWORK
DECRYPTOR
231
SIGNAL GENERATOR
230
SIGNAL STRIPPER
229
DECRYPTOR
107
DECRYPTOR
224

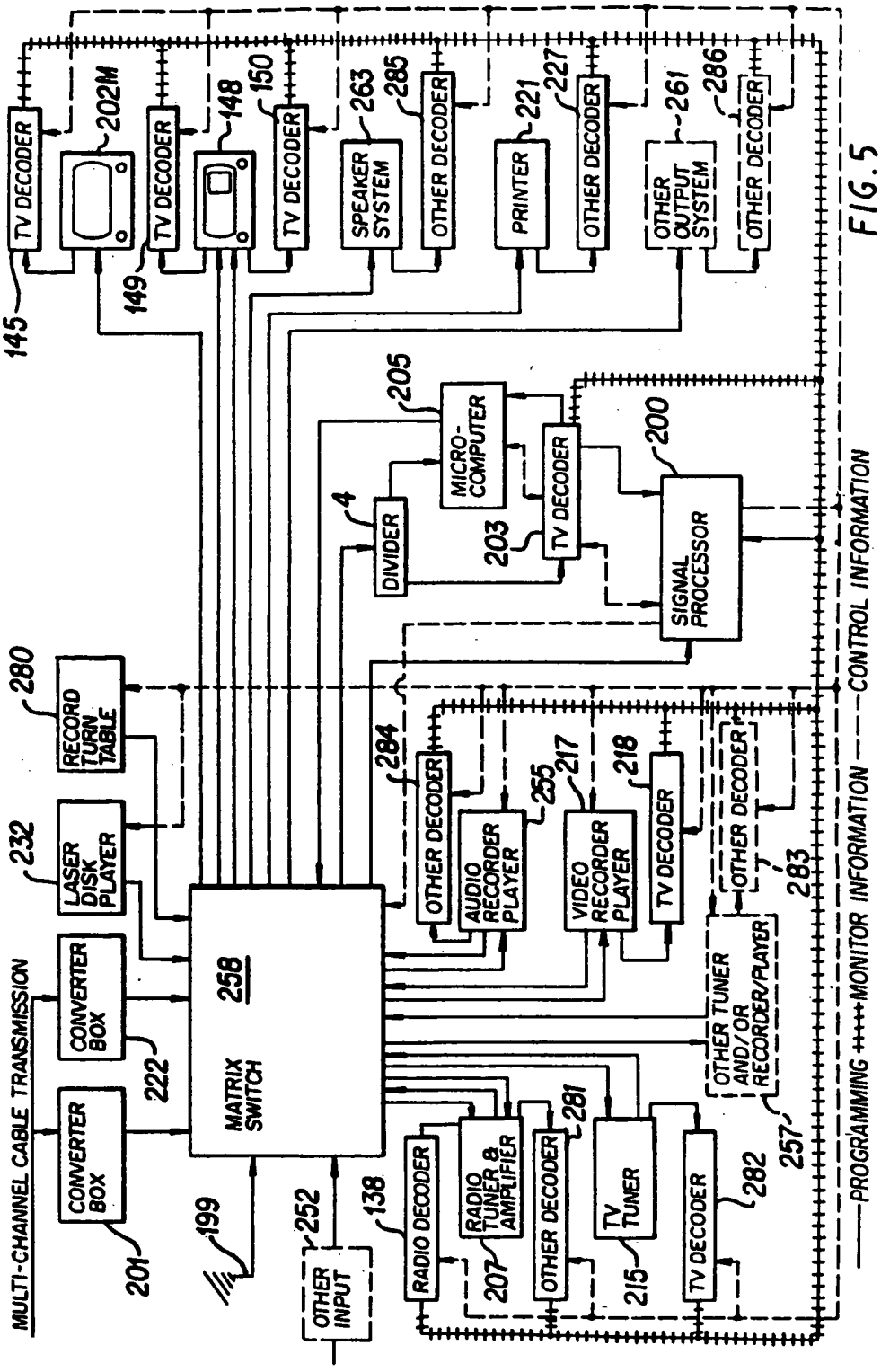

TV DECODER
202M
TV DECODER
148
150
TV DECODER
263
SPEAKER SYSTEM
285
OTHER DECODER
221
PRINTER
227
OTHER DECODER
261
OTHER OUTPUT SYSTEM
286
OTHER DECODER
145
149
205
MICRO-COMPUTER
4
DIVIDER
203
TV DECODER
200
SIGNAL PROCESSOR
280
RECORD TURN TABLE
232
LASER DISK PLAYER
284
OTHER DECODER
255
AUDIO RECORDER PLAYER
217
VIDEO RECORDER PLAYER
218
TV DECODER
OTHER DECODER
283
MULTI-CHANNEL CABLE TRANSMISSION
CONVERTER BOX
222
CONVERTER BOX
201
258
MATRIX SWITCH
199
252
OTHER INPUT
138
RADIO DECODER
207
RADIO TUNER & AMPLIFIER
OTHER DECODER
281
215
TV TUNER
TV DECODER
282
257
OTHER TUNER AND/OR RECORDER/PLAYER
PROGRAMMING ++++ MONITOR INFORMATION ---- CONTROL INFORMATION

FIG. 5

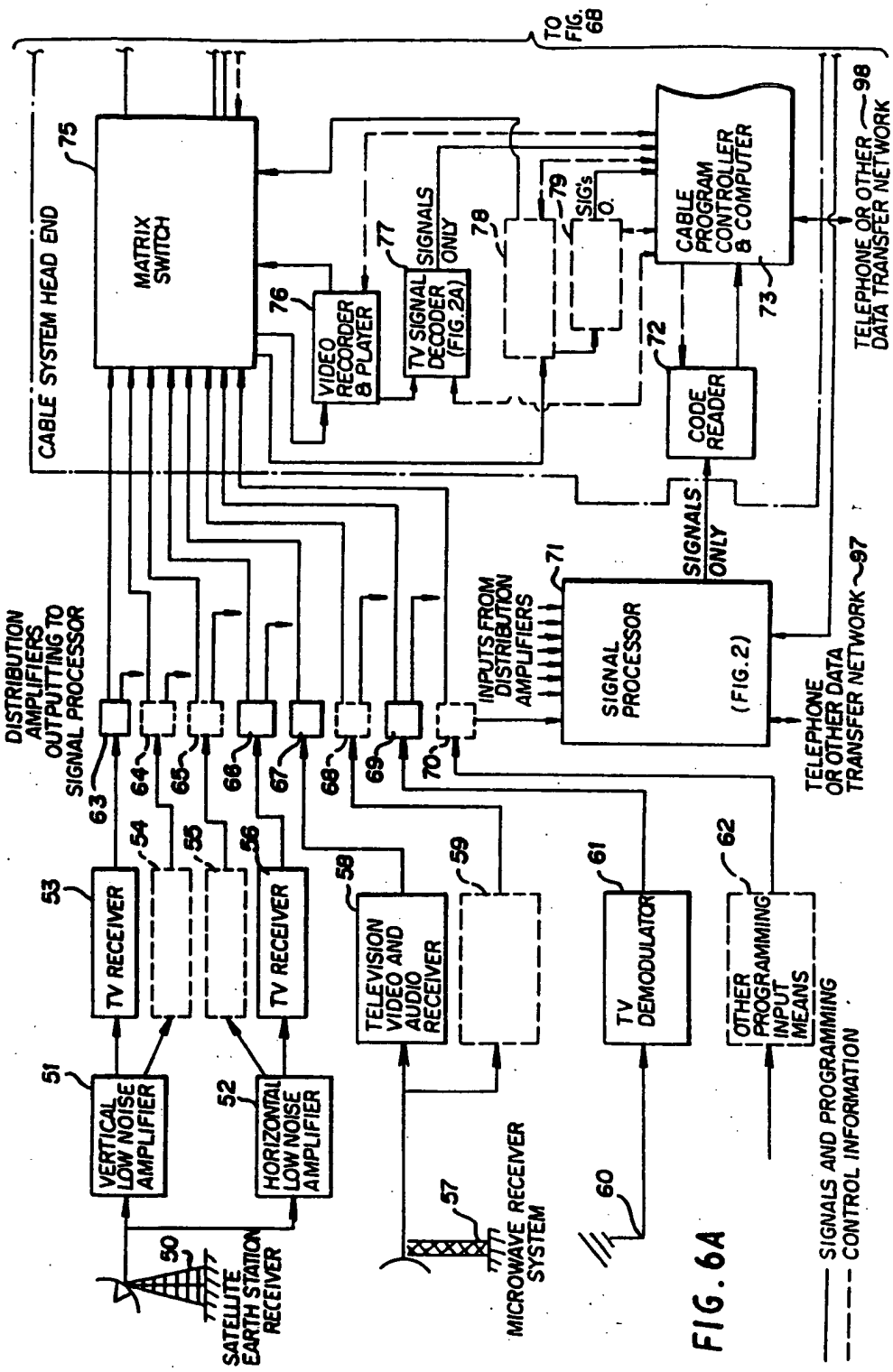

TO FIG. 6B
CABLE SYSTEM HEAD END
75
MATRIX SWITCH
76
VIDEO RECORDER & PLAYER
77
SIGNALS ONLY
TV SIGNAL DECODER (FIG. 2A)
78
79
SIG's
CABLE PROGRAM CONTROLLER & COMPUTER
73
72
CODE READER
98
TELEPHONE OR OTHER DATA TRANSFER NETWORK
SIGNALS ONLY
71
INPUTS FROM DISTRIBUTION AMPLIFIERS
SIGNAL PROCESSOR (FIG. 2)
97
TELEPHONE OR OTHER DATA TRANSFER NETWORK
DISTRIBUTION AMPLIFIERS OUTPUTTING TO SIGNAL PROCESSOR
63
64
65
66
67
68
69
70
53
54
55
56
TV RECEIVER
TV RECEIVER
58
TELEVISION VIDEO AND AUDIO RECEIVER
59
61
TV DEMODULATOR
62
OTHER PROGRAMMING INPUT MEANS
51
VERTICAL LOW NOISE AMPLIFIER
52
HORIZONTAL LOW NOISE AMPLIFIER
50
SATELLITE EARTH STATION RECEIVER
57
MICROWAVE RECEIVER SYSTEM
60
SIGNALS AND PROGRAMMING
CONTROL INFORMATION

FIG. 6A

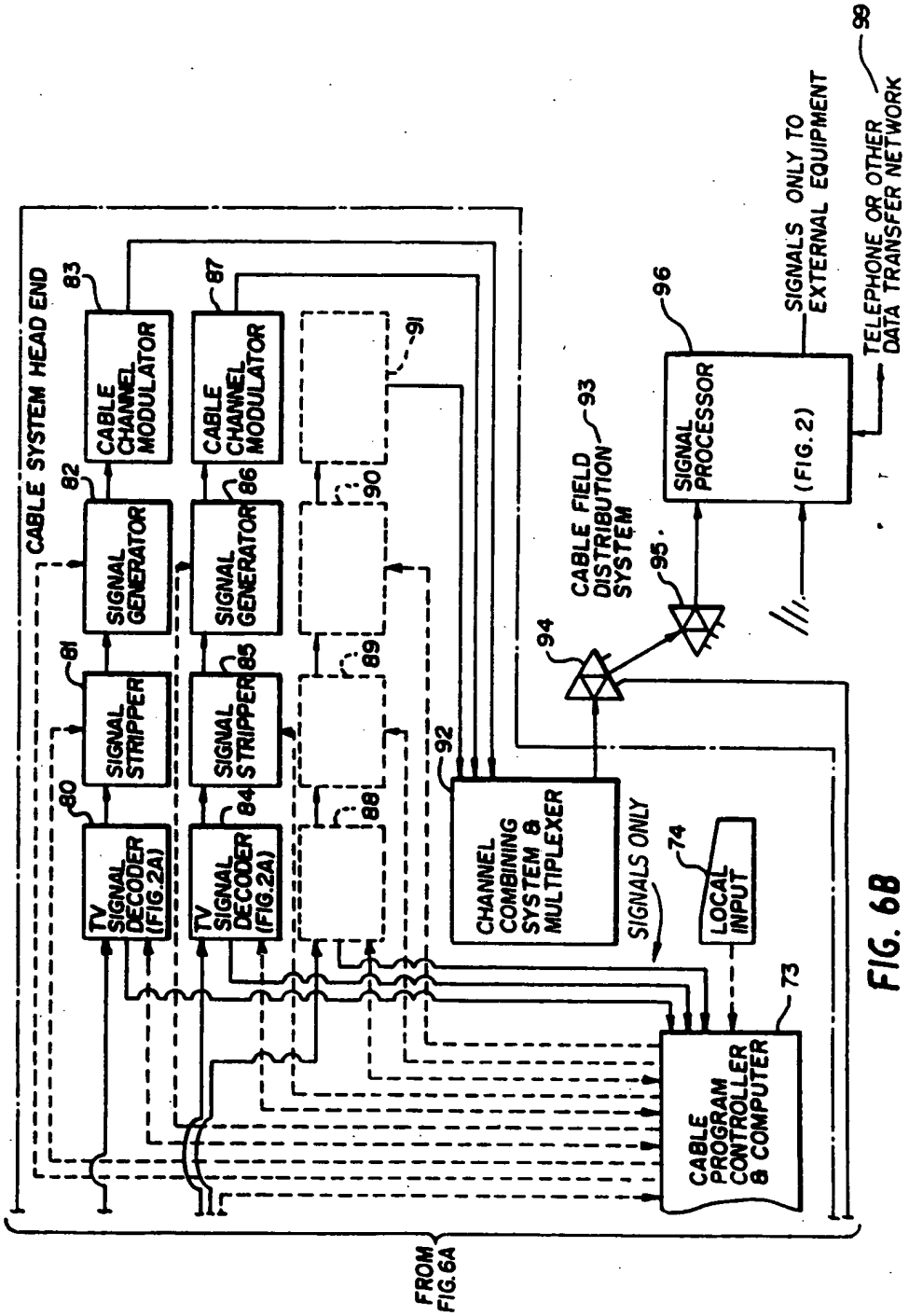

CABLE SYSTEM HEAD END
TV SIGNAL DECODER (FIG.2A)
SIGNAL STRIPPER
SIGNAL GENERATOR
CABLE CHANNEL MODULATOR
CHANNEL COMBINING SYSTEM & MULTIPLEXER
CABLE FIELD DISTRIBUTION SYSTEM
SIGNAL PROCESSOR
(FIG. 2)
SIGNALS ONLY TO EXTERNAL EQUIPMENT
TELEPHONE OR OTHER DATA TRANSFER NETWORK
SIGNALS ONLY
LOCAL INPUT
CABLE PROGRAM CONTROLLER & COMPUTER
FROM FIG.6A

FIG. 6B

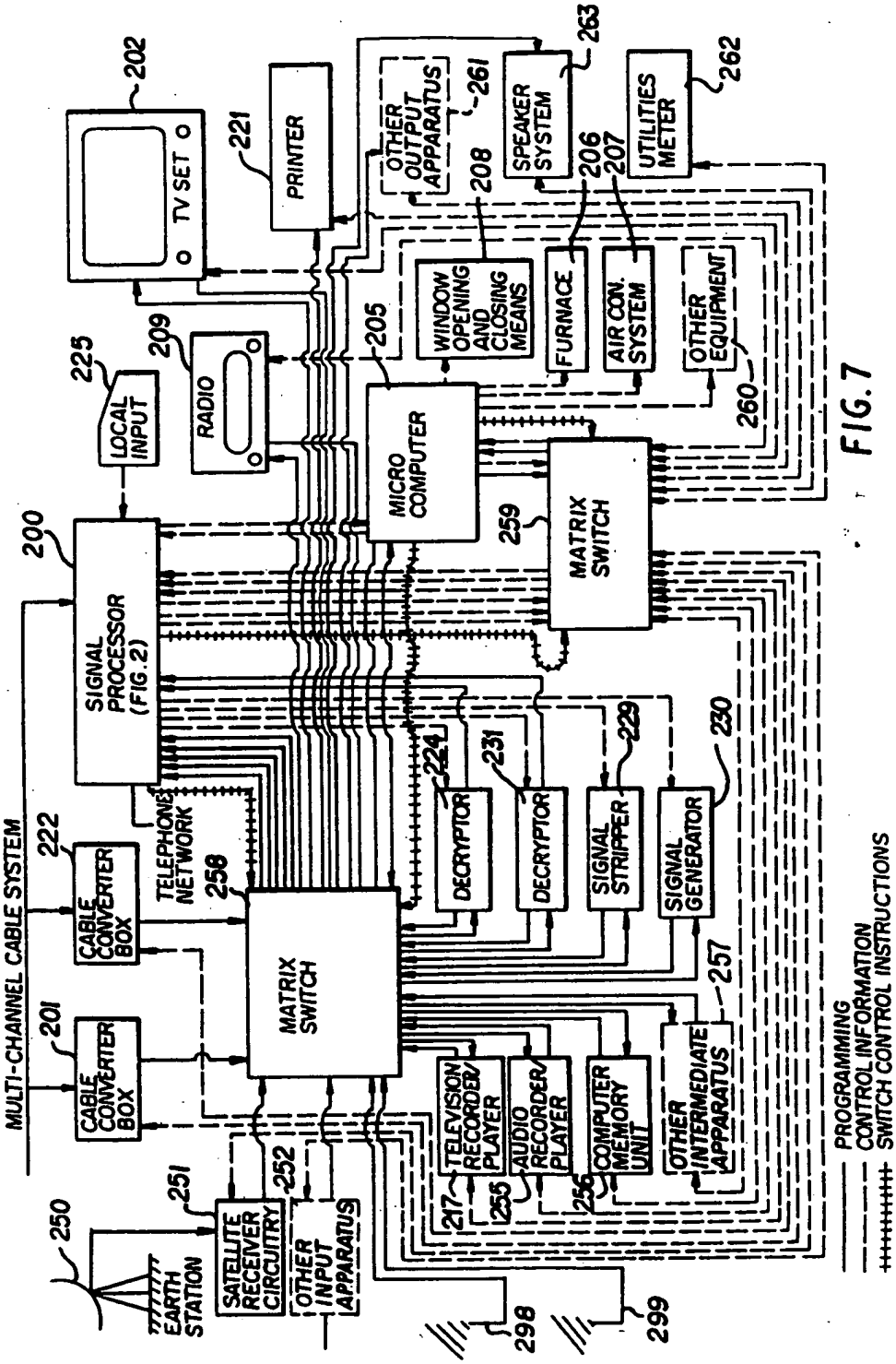

MULTI-CHANNEL CABLE SYSTEM
EARTH STATION
SATELLITE RECEIVER CIRCUITRY
OTHER INPUT APPARATUS
CABLE CONVERTER BOX
CABLE CONVERTER BOX
TELEPHONE NETWORK
SIGNAL PROCESSOR (FIG. 2)
LOCAL INPUT
RADIO
TV SET
PRINTER
MICRO COMPUTER
MATRIX SWITCH
MATRIX SWITCH
DECRYPTOR
DECRYPTOR
SIGNAL STRIPPER
SIGNAL GENERATOR
TELEVISION RECORDER/ PLAYER
AUDIO RECORDER/ PLAYER
COMPUTER MEMORY UNIT
OTHER INTERMEDIATE APPARATUS
OTHER OUTPUT APPARATUS
WINDOW OPENING AND CLOSING MEANS
FURNACE
AIR CON. SYSTEM
OTHER EQUIPMENT
SPEAKER SYSTEM
UTILITIES METER
PROGRAMMING
CONTROL INFORMATION
SWITCH CONTROL INSTRUCTIONS

FIG. 7

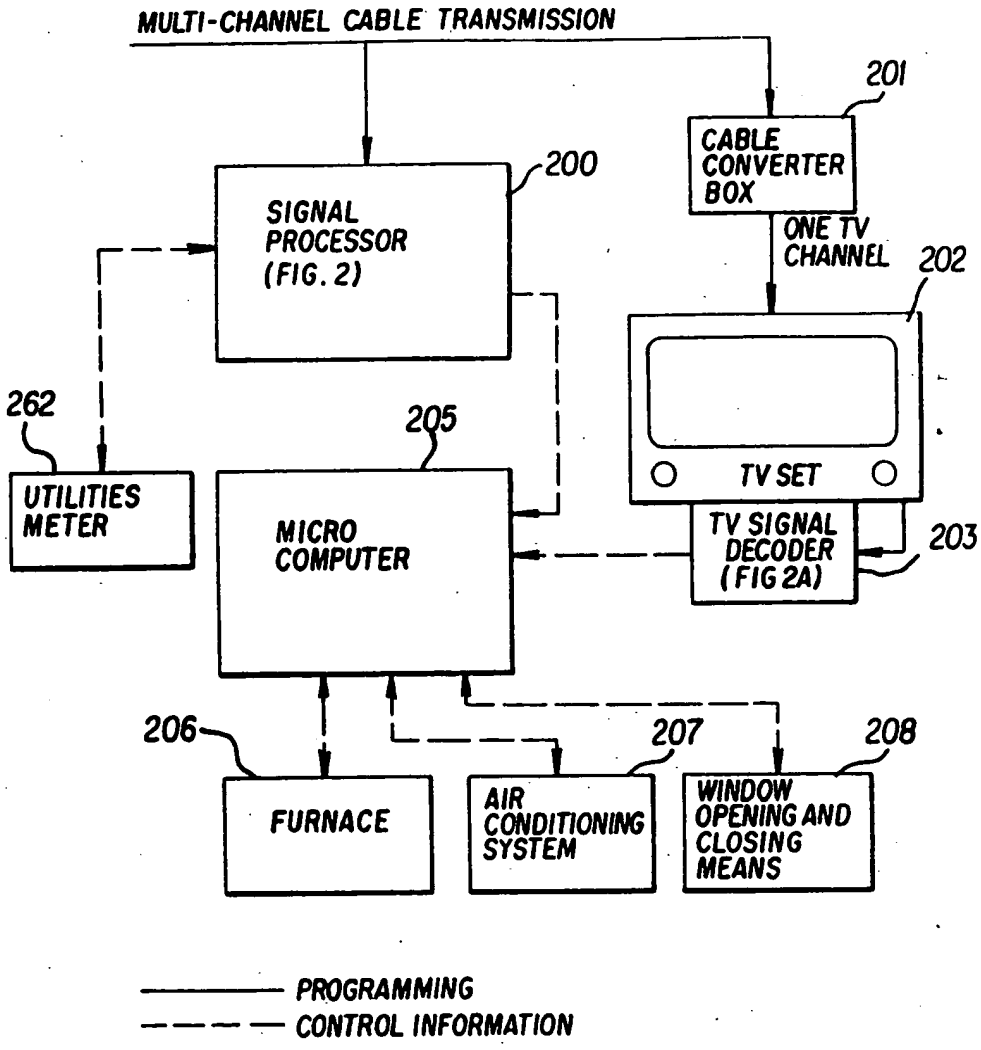

MULTI-CHANNEL CABLE TRANSMISSION
201
CABLE CONVERTER BOX
200
SIGNAL PROCESSOR (FIG. 2)
ONE TV CHANNEL
202
262
205
UTILITIES METER
MICRO COMPUTER
TV SET
TV SIGNAL DECODER (FIG 2A)
203
206
207
208
FURNACE
AIR CONDITIONING SYSTEM
WINDOW OPENING AND CLOSING MEANS
PROGRAMMING
CONTROL INFORMATION

FIG. 7A

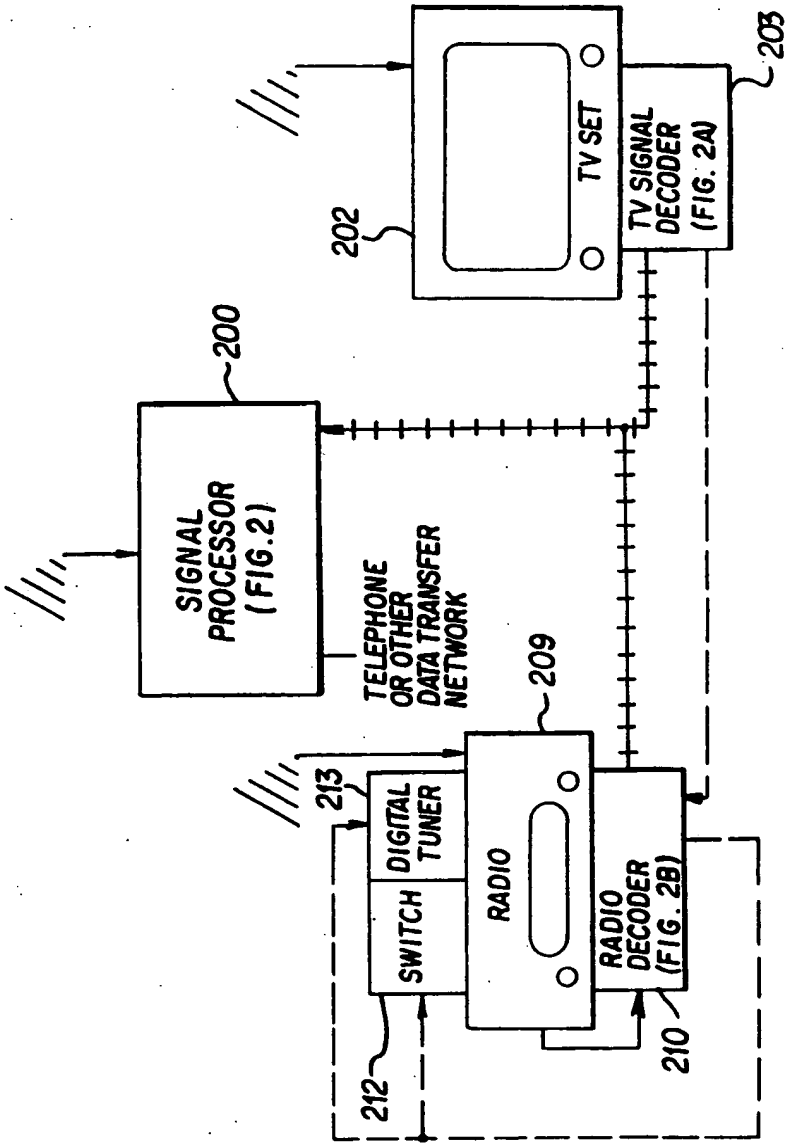

SIGNAL PROCESSOR (FIG.2)
200
TELEPHONE OR OTHER DATA TRANSFER NETWORK
202
TV SET
TV SIGNAL DECODER (FIG. 2A)
203
209
213
DIGITAL TUNER
SWITCH
RADIO
RADIO DECODER (FIG. 2B)
210
212
PROGRAM
CONTROL INFORMATION
MONITOR INFORMATION

FIG. 7B

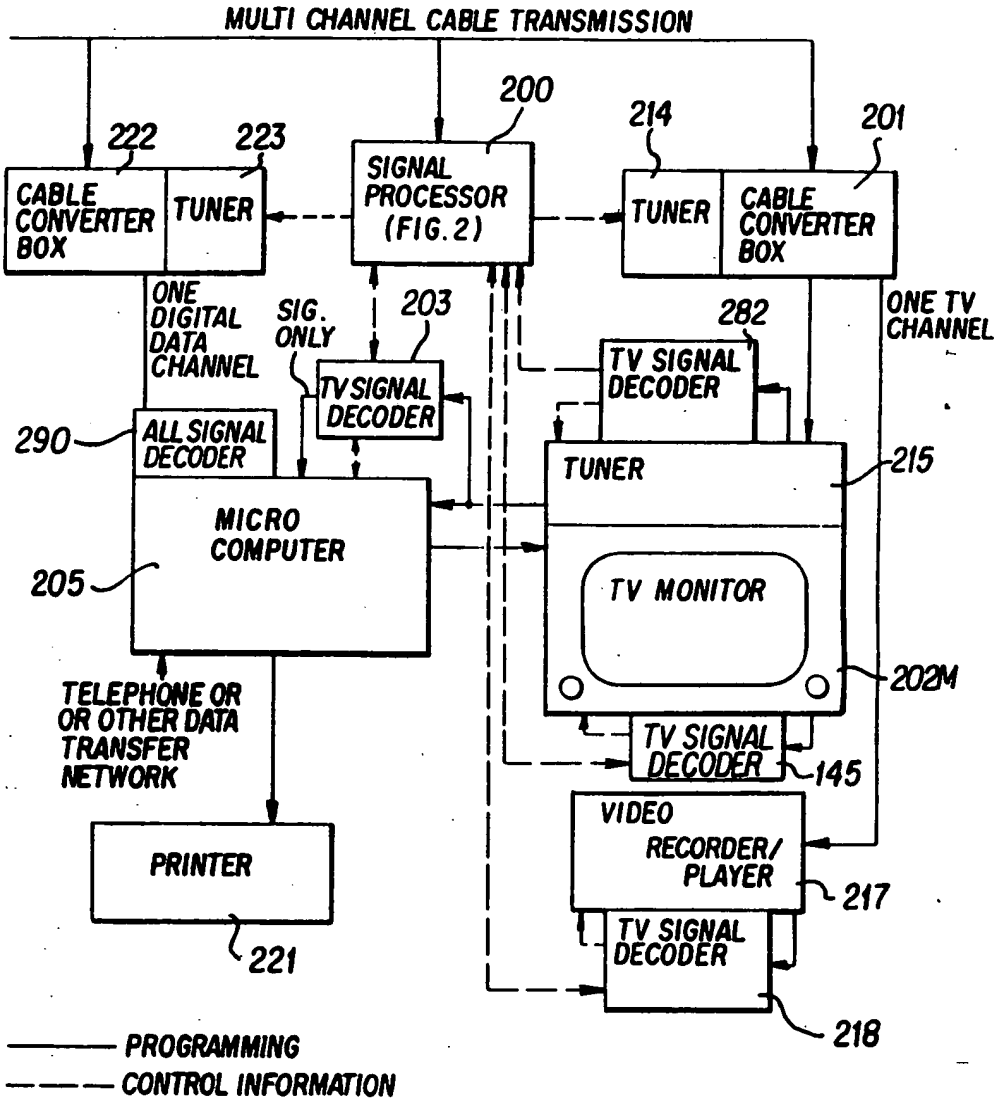

MULTI CHANNEL CABLE TRANSMISSION
200
214
201
222
223
SIGNAL PROCESSOR (FIG. 2)
CABLE CONVERTER BOX
TUNER
TUNER
CABLE CONVERTER BOX
ONE DIGITAL DATA CHANNEL
SIG. ONLY
203
282
ONE TV CHANNEL
TV SIGNAL DECODER
TV SIGNAL DECODER
290
ALL SIGNAL DECODER
TUNER
215
MICRO COMPUTER
205
TV MONITOR
202M
TELEPHONE OR OR OTHER DATA TRANSFER NETWORK
TV SIGNAL DECODER
145
VIDEO RECORDER/ PLAYER
217
PRINTER
221
TV SIGNAL DECODER
218
PROGRAMMING
CONTROL INFORMATION

FIG. 7C

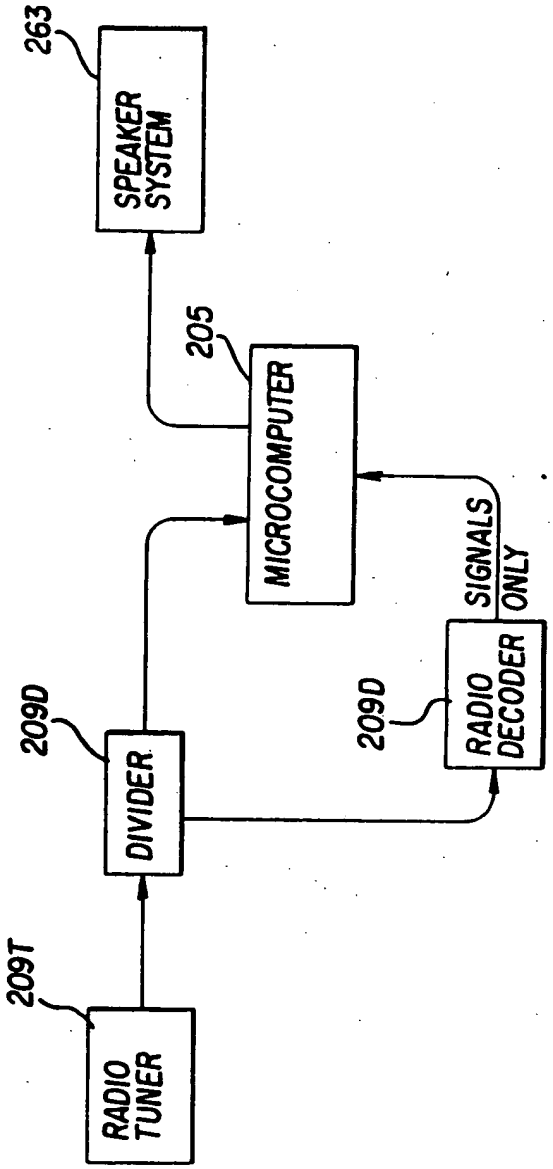

263
SPEAKER SYSTEM
205
MICROCOMPUTER
SIGNALS ONLY
209D
RADIO DECODER
209D
DIVIDER
209T
RADIO TUNER

FIG. 7D

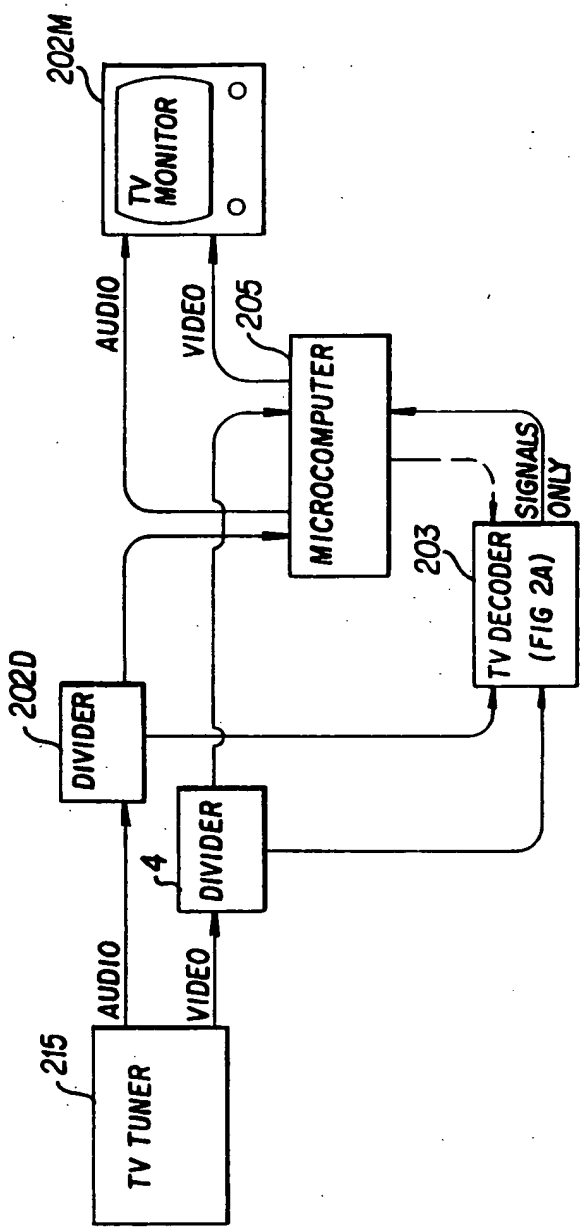

202M
TV MONITOR
AUDIO
VIDEO
205
MICROCOMPUTER
SIGNALS ONLY
203
TV DECODER (FIG 2A)
202D
DIVIDER
4
DIVIDER
AUDIO
VIDEO
215
TV TUNER

FIG. 7E

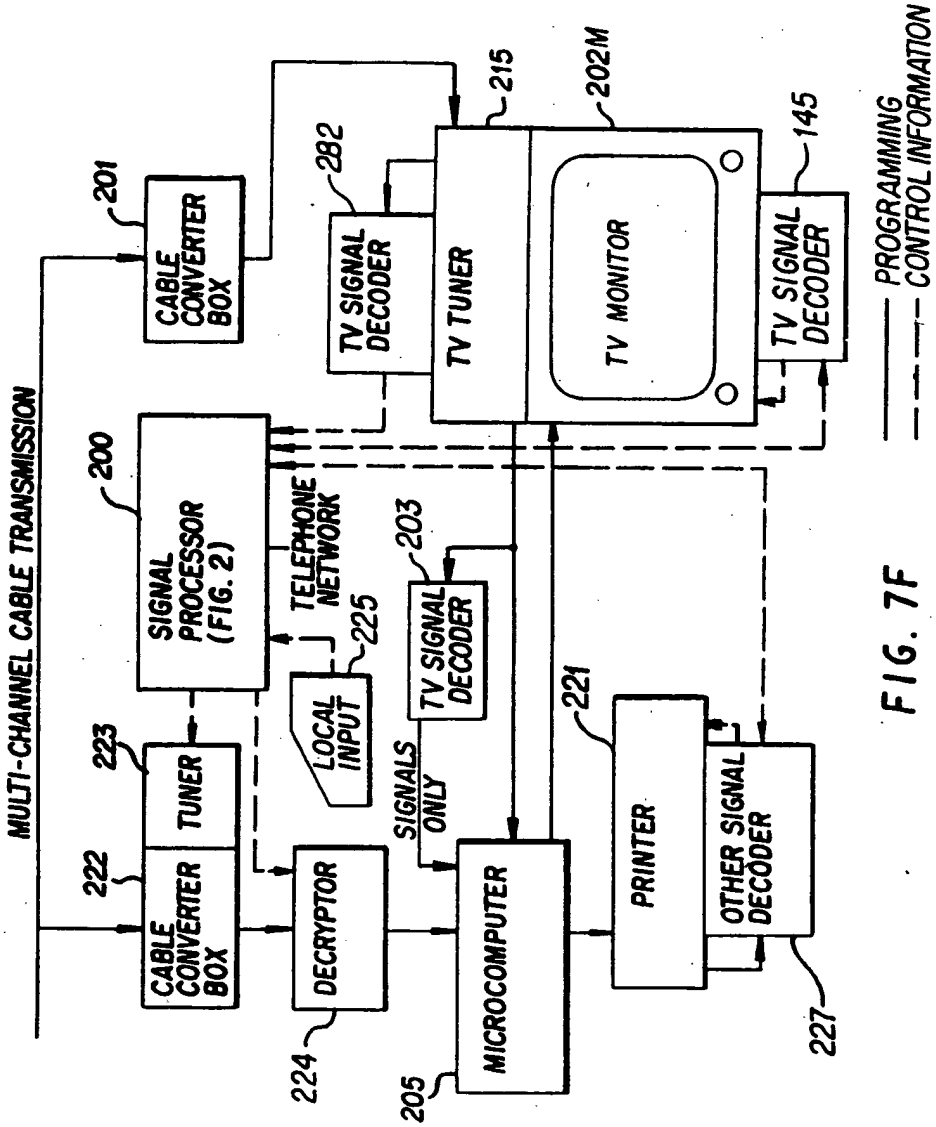

MULTI-CHANNEL CABLE TRANSMISSION
CABLE CONVERTER BOX
201
SIGNAL PROCESSOR (FIG. 2)
200
TELEPHONE NETWORK
225
LOCAL INPUT
TUNER
223
CABLE CONVERTER BOX
222
DECRYPTOR
224
SIGNALS ONLY
TV SIGNAL DECODER
203
MICROCOMPUTER
205
TV SIGNAL DECODER
282
TV TUNER
215
TV MONITOR
202M
TV SIGNAL DECODER
145
PRINTER
221
OTHER SIGNAL DECODER
227
PROGRAMMING
CONTROL INFORMATION

FIG. 7F

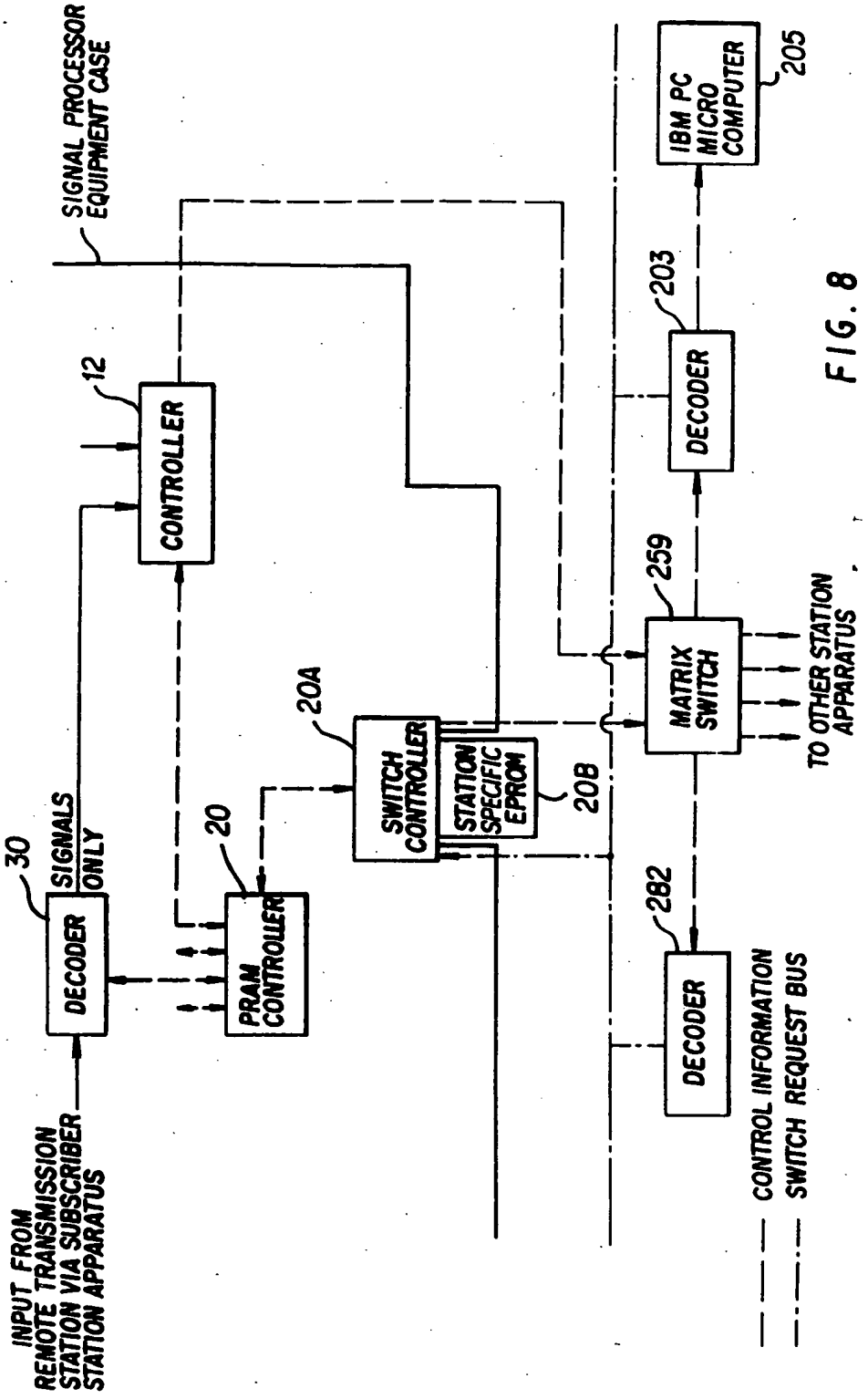

SIGNAL PROCESSOR EQUIPMENT CASE
IBM PC MICRO COMPUTER
205
203
DECODER
12
CONTROLLER
259
MATRIX SWITCH
TO OTHER STATION APPARATUS
20A
SWITCH CONTROLLER
STATION SPECIFIC EPROM
20B
30
SIGNALS ONLY
20
PRAM CONTROLLER
282
DECODER
INPUT FROM REMOTE TRANSMISSION STATION VIA SUBSCRIBER STATION APPARATUS
DECODER
CONTROL INFORMATION
SWITCH REQUEST BUS

FIG. 8